UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,059	07/06/2001	Jeffrey S. Hoekman	MSFT-0580/167506.2	7818

7590 09/17/2004	**EXAMINER**
Woodcock Washburn Kurtz	ABEL JALIL, NEVEEN
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One Liberty Place - 46th Floor	
Philadelphia, PA 19103	

ART UNIT	PAPER NUMBER
2175	

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _17 May 2004_.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-33_ is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) _1-20_ is/are allowed.

6) ☒ Claim(s) _21-33_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a) ☐ All   b) ☐ Some *   c) ☐ None of:

  1. ☐ Certified copies of the priority documents have been received.

  2. ☐ Certified copies of the priority documents have been received in Application No. _____.

  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
    application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Remarks

1.   The amendment field on May 17, 2004 has been received and entered. Claims 1-

33 are pending.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent granted
> on an application for patent by another filed in the United States before the invention by the applicant
> for patent, except that an international application filed under the treaty defined in section 351(a) shall
> have the effects for purposes of this subsection of an application filed in the United States only if the
> international application designated the United States and was published under Article 21(2) of such
> treaty in the English language.

3.   Claims 21-33 are rejected under 35 U.S.C. 102(e) as being anticipated by <u>Blum et</u>

<u>al.</u> (U.S. Patent No. 5, 918, 223).

As to claims 21, 27, 28, and 29, <u>Blum et al.</u> discloses a method of classifying data

according to consonance properties of the data, comprising:

assigning to each media entity of a plurality of media entities in a data set to at

least one consonance class (See column 6, lines 45-62, and see column 5, lines 50-62);

processing each media entity of said data set to extract at least one consonance

characteristic based on digital signal processing of each media entity (See column 3, lines

5-67, also see column 17, lines 9-63, and see column 22, lines 37-67);

generating a plurality of consonance vectors for said plurality of media entities, wherein each consonance vector includes said at least one consonance class and at least one consonance characteristic based on digital signal processing (See column 24, lines 10-25, also see column 6, lines 13-38); and

forming a classification chain based upon said plurality of feature vectors (See column 25, lines 7-32, also see column 25, lines 35-67).

As to claim 22, Blum et al. discloses comprising:

processing an unclassified media entity to extract at least one consonance characteristic based on digital signal processing of the unclassified media entity (See column 3, lines 5-67, also see column 17, lines 9-63, and see column 22, lines 37-67);

generating a vector for the unclassified media entity including said at least one digital signal processing consonance characteristic (See column 6, lines 13-38);

presenting the vector for the unclassified media entity to the classification chain (See column 24, lines 10-25); and

classifying the unclassified entry with an estimate of the consonance class by calculating the representative consonance class of the subset of the plurality of vectors of the classification chain located in the neighborhood of the vector for the unclassified entity (See column 23, lines 10-67).

As to claim 23, Blum et al. discloses including, calculating a neighborhood distance that defines a distance within which two vectors in the classification chain space

are in the same neighborhood for purposes of being in the same consonance class (See column 25, lines 7-32, also see column 25, lines 35-67).

As to claim 24, <u>Blum et al.</u> discloses wherein said classifying of the unclassified entry includes classifying the unclassified entity with a median consonance class represented by the neighborhood (See column 25, lines 58-67, and see column 26, lines 1-45).

As to claim 25, <u>Blum et al.</u> discloses wherein said consonance class is described by a numerical value and said classifying of the unclassified entry includes classifying the unclassified entry with a mean of numerical consonance values found in the neighborhood (See column 25, lines 7-32, also see column 25, lines 35-67).

As to claim 26, <u>Blum et al.</u> discloses wherein said classifying includes returning at least one number indicating the level of confidence of the consonance class estimate (See column 11, lines 1-67, and see column 12, lines 1-50, also see column 17, lines 20-65).

As to claim 30, <u>Blum et al.</u> discloses a computing system, comprising:

a computing device including:

a classification chain data structure stored thereon having a plurality of classification vectors, wherein each vector includes data representative of a consonance

class as classified by humans and consonance characteristics as determined by digital signal processing (See column 3, lines 5-67, also see column 17, lines 9-63); and

processing means for comparing an unclassified media entity to the classification chain data structure to determine an estimate of the consonance class of the unclassified media entity (See column 22, lines 31-67).

As to claim 31, Blum et al. discloses wherein said determining of an estimate of the consonance class includes returning at least one number indicating the level of confidence of the consonance class assignment (See column 14, lines 21-36).

As to claim 32, Blum et al. discloses wherein the performance level of the classification chain improves over time due to the examination of unclassified media entities that have a low confidence level associated with the consonance class assignment (See column 23, lines 10-67, and see column 23, lines 1-67, and see column 24, lines 7).

As to claim 33, Blum et al. discloses a classification chain data structure utilized in connection with the classification of consonance of new unclassified media entities, comprising:

a plurality of classification vectors (See column 3, lines 5-34), wherein each vector includes:

consonance data as classified by humans (See column 3, lines 30-67); and

consonance data determined by digital signal processing techniques (See column 6, lines 14-67).

Reasons for Allowance

4.   Claims 1-20 are allowed over the prior art made of record.

5.   The following is a statement of reasons for allowance:

The prior art of record (Blum et al. -U.S. Patent No. 5, 918, 223-and- ST. JOHN -

U.S. Pub. No. 2003/0023444 A1) do not disclose, teach, or suggest the claimed

limitations of (in combination with all other features in the claim), applying the data

stored in said at least one output matrix to critical band masking filtering; applying the

data stored in said at least one output matrix to a peak continuation process; and applying

the data stored in said at least one output matrix to an intervals calculation process where

the frequency of ratios between peaks are stored into an output vector for the audio data

being classified, as claimed in claims 1, 18, 19, and 20.

Claims 2-17 are allowed over the prior art made of record, because they are

dependent from the allowed independent claim 1.

Response to Arguments

6.   Applicant's arguments filed on May 17, 2004 have been fully considered but they

are not persuasive.

In response to applicant's argument that "nowhere does <u>Blum et al.</u> teach

"assigning to each media entity of a plurality of media entities in a data set to at least one

consonance class" is respectfully acknowledged but is not deemed to be persuasive.

The Examiner points to <u>Blum et al.</u> column 3, lines 22-67, and see column 4, lines

1-13, wherein <u>Blum et al.</u> teaches in addition to allowing a user to retrieve a certain sort

of sound, and to classify a set of sounds into classes, the invention allows a user to

automatically divide a recording or stream of audio into individual segments.

There are several ways in which the stream can be segmented an example of this

user defined classification can be a consonance class or any other subjective

segmentation/filtering of the media entity. By referring to <u>Blum et al.</u>'s classification

system, the user is hereby assigning each media entity of a plurality of media entities in a

data set to at least one user-defined class "consonance class".

Conclusion

7.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the

extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 703-305-8114. The examiner can normally be reached on 8:30AM-5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 703-305-3830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Neveen Abel-Jalil
September 13, 2004

SAM RIMELL
PRIMARY EXAMINER